

COSMOPOLITAN CHRONICLE

True tales from the annals of history, archaeology, construction, and restoration of the Casa de Bandini and Cosmopolitan Hotel.
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Tools and Materials, Now and Then.. Part 4

WILLIAM F. MENNELL
San Diego Coast District
District Services Manager

A report of theft from a barn storing goods from a ship: *Royal Herald* 30, May, 1805 "...some carpenter's tools and several articles of less value..." A carpenter's tools were not only the life blood of the craftsman, they were vital to the wooden ships of the era, and to communities, for without them ships, homes, barns, and wagons could not be built or repaired. Both the tools and the craftsman who used them were highly valuable and given high status. To inherit an artisan's tools was a great honor.

Tools in the 19th century were often made by hand. The metal components were forged by a blacksmith, the wooden parts were made by the carpenter using them. Making these tools was usually a required task for carpenter's apprentices. At the end of the apprenticeship which could take 5 to 12 years, the graduated journeyman would have the tools needed to begin their own career. Apprentice-

ships began as early as 8 years old, Benjamin Franklin, for example became an apprentice at the age of 12.

One of the most important tools was a measuring device. For long distances that did not require extreme accuracy like the walls of a building, pacing would suffice. Ordinarily the pace is estimated at two and one half linear feet but in measuring distances by stepping, the pace is extended to three feet. However, pacing off a distance correctly depends upon every pace being the same, which is extremely unlikely. If they aren't it could result in two parallel walls not being the same length, and the cross wall would be out of square. Many adobes including the Casa de Bandini have walls that are not square. Another possibility for the walls being out of square is that the workman used a rope to measure the length, and stretched it tighter on one of the walls. There is a third possibility. The *vara*.

The *vara* was the primary unit of length during the Mexican period when Bandini's home was built. Unlike the yard, or the meter, the *vara* varied from place to place. In California, it was determined to be 33.372 inches,

but by Mexican standards at the same time it was 32.99 inches. While this seems a very small difference, for large areas such as the 100 square *varas* granted to Bandini and Estudillo in 1827, the difference is 1757 square feet. If the Mexican *vara* was used on one wall, and the California *vara* on the parallel wall, over 104 feet-- the length of the Calhoun Street wing of the Casa de Bandini-- the difference is about 16 inches.

When the Cosmopolitan Hotel was constructed in 1869, the workers used the English, or standard measurement system. Their measurement devices would be a yard stick-- wooden or ivory sticks having been used since at least the time of the Romans--or a folding rule, which were in use by many carpenters since the 18th century. Carpenters also had measurement markings on the iron framing squares they used.

Folding Rule

